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ABSTRACT

Findings from a qualitative evaluation of the Coordinated Consumer Health Education Project in rural Eastern Kentucky are presented. The purpose of the project is to provide health education for pregnant and lactating women and their infants up to one year of age through a coordinated effort with other health care providers. The evaluation approach included in-depth, personal interviews with clients and staff and pre-post administration of food frequency records. The report describes the project setting, goals, and implementation. Twelve major effects of the project in the areas of prenatal diet and health habits, birth control, infant feeding, and coordination of health services are discussed, and thirteen recommendations for strengthening the delivery of health education in Appalachian and other isolated communities are provided. (Author/MP)

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THE EFFECTS OF THE COORDINATED CONSUMER EDUCATION PROJECT ON IMPROVING MATERNAL AND INFANT CARE PRACTICES IN APPALACHIA

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CHAPTER I

DESIGN OF THE STUDY

Purpose

This report presents the findings of the third and final evaluation site visit to Eastern Kentucky to study the Coordinated Consumer Education Project (CCHEP). Highlights from the two previous site visits are also included. The purpose of this report is to shed light on three questions:

(1) How has the project affected the nutritional and health care practices of area pregnant women and mothers?

(2) How has the project affected infant care and health?

(3) How has the project affected coordination among area health professionals?

Procedures

In depth, personal interviews were conducted with twenty-seven clients or approximately 25 percent of all the CCHEP clients. Clients were selected for interviews who had been in the program at least six months and represented three of the four counties being served. A copy of the interview guide is in the appendix.

Additional data from these same clients were collected by project staff. The instruments typically administered when clients enter the program were readministered. These instruments included a Three Day Food Record, Food Frequency Record, and Infant Questionnaire. For clients where baseline data was available a pre-post assessment of changes was conducted. When no baseline

data was available, the post data was analyzed descriptively. Project staff were also asked to record their own observation of changes in their clients on a Client Checklist.

During the previous site visits, interviews had been conducted with twenty-one health care providers including five physicians, ten health professionals, and six steering committee members.

CHAPTER II

OVERVIEW OF THE PROJECT

Project Goals and Objectives

The purposes of CCHEP is to provide health education through linking appropriate community resources in four counties of Eastern Kentucky: Perry, Breathitt, Lecher, and Knott. The project proposes to serve three types of clients: pregnant women and lactating mothers, infants up to one year of age, and health care professionals.

The objectives for pregnant women and lactating mothers are to:

- Provide individual health education and nutrition counseling
- Bring hemoglobin levels within the normal range
- Promote acceptable prenatal weight gain
- Promote adequate consumption of calories and key nutrients
- Promote understanding of the benefits of different approaches to infant feeding
- Reduce tobacco, alcohol, and drug use
- Increase the number of women breastfeeding their infants
- Promote appropriate use of birth control

The objectives for infants are to:

- Promote adequate amounts and sequence of infant feeding
- Promote appropriate use of iron and vitamin supplements
- Bring hemoglobin levels within the normal range
- Bring up birth weights to the average range
- Promote acceptable weight gain for infants up to 12 months
- Increase the number of infants receiving non-commercial baby foods prepared at home

- Reduce chronic diarrhea in infants
- Promote correct removal of plaque from infants' teeth
- Foster cooperation and increase coordination among primary care deliveries
- Conduct workshops for health care professionals on prenatal and infant nutrition
- Standardize the nutritional recommendations providers make to their patients
- Develop multi-agency consensus about health education materials

Implementation

After three years of planning which began in April 1977, CCHEP is nearing the end of its first year of operation. The heart of CCHEP is the work of the Health Education Assistants (HEAs). These paraprofessionals visit women in their homes to provide instruction in maternal and child care. The project is budgeted to employ twelve half-time HEAs who provide the nutritional and health counseling for the women and infants. There has been a fair amount of turnover among the HEAs and typically fewer than the alloted twelve have been employed. At the time of the last site visit eight HEAs were employed and recruitment for the unfilled positions was occurring. The HEAs are recruited from the area and have not had extensive previous training in nutrition or education. They receive training several times a month and are paid minimum wage. Their time is spent traveling to homes for personal visits with clients. Their case load averages fifteen clients who are typically seen once every two weeks for about an hour.

The project is managed by three staff recruited from the local area. A project director is responsible for managing the entire project and coordinating linkage to community resources. A nutrition specialist is responsible for the content taught to the clients and health care providers. An educational coordinator is responsible for supervising the HEAs. There has been some turnover among project staff. The nutrition specialist has been replaced twice. Project staff are somewhat young and inexperienced. However, they are strongly committed to the goals of the projeet and anxious to learn. Project staff appear to be growing into their roles and becoming more effective over time.

A steering committee of health providers representing the counties served by CCHEP has been active since the project was initially conceptualized. The steering committee members are seasoned professionals, well-informed, and vitally interested in the subject matter of the project. The function and purpose of the steering committee is perceived quite differently by different members. Consequently, except for a few members, the steering committee has not played a vital role in the development of the project.

The project has been challenging to implement. The original project goals were quite ambitious. The project has clearly suboptimized for some objectives and downplayed others. Objectives related to providing direct service to pregnant women, mothers, and infants have received priority. Objectives related to

fostering cooperation among health care providers have not received priority. The decision to focus on direct service to clients rather than coordination among health care providers was due, in part, to the difficulty of making any progress in the latter objective. Project staff found that there are not many incentives for the agencies to cooperate. There is competition among the counties for funding. There is competition within the counties for business and prestige. Many health care providers were somewhat suspicious of the project. They saw the project as moving in on their territory, redundant with WIC, or one of a continuing series of short term projects. Health care providers seemed hesitant to invest themselves in something that they weren't sure would be around next year. However, we also feel that the failure to mount any significant project activities for health professionals was due to lack of initiative on the part of project staff to take on the more difficult objectives. We found many of the fears and misconceptions of area health professionals were due to a lack of information about the project. During the first year of the project, the primary involvement of health care providers was as referral sources for clients. Even this role was limited to about seven individuals. In the recommendations section of this report, several suggestions for strengthening the projects role with health care providers are offered. Although this is clearly a difficult area to change, it is also one which is critical to the long-term impact of this effort in Eastern Kentucky. Unless project staff can begin to influence the maternal and infant care practices of health professionals in the area, the projects' influence will die out when federal funds are no longer available.

Confrontation with a variety of decisions related to providing direct service to clients has characterized the first year of the project. One of the first decisions was deciding how to prepare the HEAs to deliver the service. In the beginning there were concerns that the HEAs would not be well received by health professionals. There was also much thought given to the type of training that would most quickly prepare the paraprofessionals to be effective in their roles. Project staff wisely put considerable effort into recruiting, interviewing and selecting HEAs. The result has been finding a capable group of employees. Project staff have also given attention to training the HEAs. Techniques included weekly group sessions on different topics, going out on visits with other HEAs, being observed in action by one of the project management staff, reading recommended materials, and individual consultation with the project nutritionalist, and consultation with other nutrition specialists in the area. One of the most effective training techniques appears to be providing a structure for HEAs to share problems and ideas for working with clients with each other. Another effective strategy, used to a limited basis, has been to involve area health professionals in conducting training sessions. This technique has also provided an opportunity for health professionals to meet the HEAs. Physicians have left the training sessions with a favorable impression of the HEAs' commitment and capabilities. This gives them more confidence in the ability of paraprofessionals to assume an educational role with their clients.

Another critical decision still being made by project staff is the topics which should receive focus during client visits. The project started with a relatively narrow focus, primarily on nutritional issues. When the HEAs began to confront the variety of client problems, ranging from being deserted by their husbands to having their power shut off, the HEAs began to broaden their roles based on client needs. Project staff also found that the WIC program was meeting many of the clients' basic nutritional needs. The movement of the project toward trying to individualize the services to the needs of the clients ia a healthy and commendable move. However, this individualization must be done with caution so that the identity of the program is maintained and resources are not spread too thinly.

CHAPTER III

RESULTS

This section of the report presents our findings based on our interviews with twenty-seven clients and twenty-one health care providers. This section is organized around four topics:

- Effects on pregnant women and mothers
- Effects on infant care
- Effects on health care providers
- Clients reaction to the program

Effects on Pregnant Women and Mothers

Client profile. The majority of the clients interviewed were young which reflects the typical CCHEP client. Over 70 percent were under 25 and about 40 percent were under 20. At the time of the interview, all but three of the clients had had their babies. For about 40 percent of the clients this was their first child. Tables 1 to 3 display some background information on the clients interviewed.

Table 1

Clients' Age
N = 27

	No.	Percentage
Under 20	10	37%
20-24	10	37%
Over 24	7	26%

Table 2. State of Mother at Interview
N = 27

	No.	Percentage
Pregnant	3	11%
Had Baby	24	89%

Table 3. Birth Order of This Child
N = 27

	No.	Percentage
First	10	37%
Second	10	37%
Third or more	7	26%

A large number of clients are unmarried or not living with their husbands. For those who are married, the clients' husbands are frequently unemployed. The coal industry, the primary employer in the areas, has been on a down swing because of foreign competition and it is difficult to find other employment. The majority of the clients are on welfare programs, such as food stamps and aid for dependent children. We encountered evidence of some misuse of food stamps, primarily bartering for cigarettes, beer, and Pepsi cola. Almost all the clients received food through the WIC program. All the clients had been born and raised in Eastern Kentucky. The family ties are close and many clients expressed a deeply rooted love for the area. Many lived with their mothers or mother-in-laws or in the house next door. Clients' mothers or mother-in-laws frequently played a dominant role in child care.

All the women interviewed were not working. Most had never held a job. Their days were spent in caring for their children and household chores. For some clients these are quite time consuming, if they have to haul water and wash clothes by hand. We noticed considerable TV watching. During our December visit, the living quarters were typically overheated and dim. Curtains were often drawn. The houses themselves varied in care. About half the houses were neat and well cared for. The other half were dirty, a few had piles of trash and broken porches.

Dietary intake. The primary goal of CCHEP is to improve the nutritional habits of area women and infants. The current methods used by HEAs to improve nutrition of clients follows three phases: assessment, education, and review.

First, the current dietary intake pattern is assessed utilizing two diet history forms: the Food Frequency Chart and the Three-Day Dietary Record. The Food Frequency Chart is usually reviewed during an initial home visit. The HEA records the number of times a client reports eating a food item each week. Clients were asked to keep the Three-Day Dietary Record for themselves and give it to the HEA when completed.

The second phase is education. Many educational pamphlets and diet sheets pertaining to nutrition and health during pregnancy are distributed to clients. Some of the pamphlets, specifically, "Nutrition During Pregnancy and Lactation," "Drugs and Birth Defects," and "Bathing your Baby" were prepared on site by a former staff member. Current educational materials are varied,

colorful, informative, and accurate but they typically require a high level of sophistication for comprehension. Many of the materials are not appropriate to the Eastern Kentucky area. Foods which are commonly eaten the the area e.g., soup beans, potatoes, greens, lard, and hamburger, and nutritional ways to fix them did not receive prominence in the materials. The diet sheets contain foods which are uncommon for the area, e.g., tofu, bok choy, artichokes, and zucchini. The failure to localize the educational materials can alienate the clients. As one client reported, "She (the HEA) was asking me how often we ate roast beef, lamb and ham when I couldn't even afford any food. She was asking me about foods I had never heard of or couldn't afford. She acted like she was just reading it. I never wanted her back in my house after that..." On the other hand, some clients, typically those with better reading skills and more education, are especially receptive to the materials. As one client noted, "I have changed my diet because she gave me a diet sheet." Another client said "I read everything she brings me. There's a lot of things I don't know about." The HEAs typically go over the educational materials with the clients during the visit. But too frequently one or more pamphlets are handed to the client with the instruction to read them. On one occasion we observed a baby beginning to chew on a pamphlet before we were out the door. The educational materials and their review with clients is a critical component of CCHEP. From their experience in disseminating educational materials, CCHEP

project staff have learned several things. Project staff have learned to spot clients who are especially receptive to reading and to channel more materials to these individuals. Project staff have learned that the materials are too complex for most of the clients to read on their own and materials need to be gone over page by page during the visit. Several recommendations for further improving the use of educational materials are provided in the Recommendations section.

The third phase is review. HEAs discuss food and diet frequently during home visits. Particular nutritional problems identified in the assessment phase are discussed and new food habits are suggested and reinforced. Typical nutrition suggestions include: decreasing high sugar foods in the diet by eliminating pop, candy, sweetened cereals; increasing milk products like low-fat milk and cheese; eating more fruits and vegetables; and decreasing the amount of lard used in cooking.

When clients were asked how they had changed their dietary intake during their pregnancy almost all the clients were able to note changes. As shown in Table 4, frequently mentioned changes were "cutting down" on sweets, colas, salt, chips, and grease. There were also increased intake of protein, milk, liver, fruits and vegetables, and vitamins. As one client noted, "Before I didn't understand about what good eating habits were. I loved vegetables but she told me to eat protein. I didn't drink milk before." Another said, "She showed me to lay off cokes and potato chips." Only five of the clients were unable to mention any diet changes

during their pregnancy. One of these clients said, "All I ate was Pepsi and corn on the cob for the last two months." As typical of clients, she was anemic during her pregnancy and explained her technique for keeping her doctor happy about her hemoglobin level as follows: "I'd eat a platter of chicken liver before I'd go in for that doctor visit and he wouldn't say anything about my blood." But, overall the project appears to have been effective in this area with some dietary changes occuring in 87 percent of the clients served.

Table 4. Changes Noted by Pregnant Women in Dietary Intake

No.		No.	
6	Increased protein	3	Cut down Pepsi
5	Increased milk	3	Increased vitamins
5	Cut down sweets	3	Cut down chips
5	Increased liver	2	Cut down grease
4	Cut down salt	2	Cut calories
4	Increased fruit and vegetables	5	No changes noted

Since the most important goal of CCHEP is to positively influence the dietary intake of area women, it is interesting to look deeper into this area. What have program staff learned about improving dietary intake? What strategies work with what

kinds of clients? What strategies don't work? In observing the program in action, it appears that some clients are more responsive and benefit more from the program than others. It appears the essential ingredient is a predisposition to change on the part of the client. Typically, clients who recently have undergone some type of crisis or major event are most responsive --clients with a serious problem during pregnancy, clients in their first pregnancy who want to do a good job, and clients with emotional problems who seek out the HEAs as intimate friends. Some clients are unresponsive to the program. These are often clients who are strongly influenced by their own extended family, usually mothers and mother-in-laws, but sometimes fathers, father-in-laws, sisters, etc. It's often difficult for HEAs to get a foot in the door with these clients because their allegience to the advice of one of their kin is so strong. As mentioned earlier, many HEAs have tried to work with extended family in these cases. We encourage this practice. However, we are aware that most of the efforts to influence opinions of extended family members have not met with much success. Another strategy has been for staff to discuss problem clients at their weekly meeting. We strongly encourage this practice since it provides an opportunity for other staff to offer suggestions and share strategies they tried in similar situations. Overall, we recommend that staff spend the majority of their time and energy with responsive clients. If, after five or six visits with a concentrated effort to work

extended family, discuss the problem with other staff, and try different strategies, the client is not responding, consideration should be given to decreasing the frequency of visits or dropping the client altogether.

The project also attempts to help the women avoid gaining too much or too little weight during their pregnancy. However, as shown in Table 5 only 30 percent of the clients were in the average range of 23-27 pounds while the weight gained by the remaining 70 percent was either above or below average.

Table 5 - Mothers Weight Gain During Pregnancy
N = 23

	No.	Percentage
Below average (19-22)	6	26%
Average (23-27)	7	30%
Above Average (28-43)	10	44%

Health habits. Health providers are increasingly aware of the risk of drug ingestion for the developing fetus. Alcohol, cigarette smoke, and caffeine head the list for frequency of ingestion during pregnancy for many women in the U.S. Almost all the clients said that they have never drunk alcohol and did not do so during their pregnancy. Caffeine ingestion and cigarette smoking are common habits among the majority of clients, see Table 6. In the interviews, nineteen of the twenty-seven clients, or 70 percent, reported cigarette smoking at the beginning of their pregnancy. Of the nineteen clients who smoke, three reported

they had quit completely, twelve were trying to cut down, and four had not changed. Educational efforts about the hazards of smoking has increased awareness and the desire to quit among CCHEP clients. Several clients who cut down their smoking said they were influenced by public service announcements appearing on day-time TV about the effects of smoking on the fetus. Significant improvements in decreasing caffeine intake of clients has also occurred. Initial client records showed nineteen of thirty-three clients reported drinking coffee daily during pregnancy. The recent interviews show of the thirteen clients who drink coffee, five had quit or changed to decaffeinated and five had cut down. We see a definite decrease in the number of women drinking coffee. However, other sources of caffeine have not been assessed adequately. For example, Pepsi is a frequently consumed substance and many clients do not consider it a source of caffeine. It is interesting to note that of all the clients interviewed, only one said they consumed alcohol. Alcohol is heavily used in this area of Kentucky, although several of the counties are dry, but is appears to be mainly used by the male, not female, population.

Table 6. Changes in Health Habits During Pregnancy

	Quit	%	Cut down	%	No change	%
Coffee drinkers	5	38%	5	38%	3	24%
Smokers	3	16%	12	63%	4	21%
Alcohol drinkers	0		0		1	

Educational efforts toward improving health habits include a pamphlet on drugs during pregnancy and frequent discussion and review during client contacts. The educational pamphlet is overloaded with too much information to effectively convey the specific objectives and health hazards associated with smoking during pregnancy, and techniques for quitting smoking. Simplified educational materials on improved health habits are recommended.

Birth Control. Since many of the clients are still teenagers, unmarried, or not financially able to have more children, birth control is an area emphasized by many of the HEAs. However, in talking to the clients it became apparent that considerable fear and confusion about birth control methods exists. As one client said, "I don't like it. I'm scared of pills. I took them for three months and they made me sick." Another noted, "One of my sisters got the loop and said it hurt. I don't know if I could stand the pain." Clients' husbands were generally resistant to their wives using birth control. Several said their husbands were thinking about getting vasectomies but none had as of yet. As shown in Table 7, the majority of the clients, 62 percent, had never used any type of birth control. Of the 38 percent who had used birth control, the most frequent was the pill followed by having tubes ties, and using the IUD.

Table 7. Use of Birth Control
N = 26

Method	No.	Percentage
Pill	5	19%
Tubes Tied	3	10%
IUD	2	9%
None	16	62%

When asked whether they planned to use birth control in the future, a majority of the clients (56 percent) did not plan to or were undecided as shown in Table 8.

Table 8. Planned Use of Birth Control
N = 25

	No.	Percentage
Yes	11	44%
Unsure	9	36%
No	5	20%

Breast Feeding. Breast feeding is defined as the optimal method of infant feeding for the first year of life by the American Academy of Pediatrics, The American Dietetic Association, and other professional health care providers. Breast feeding is not a common practice among CCHEP clients. In the preliminary review of client records, seven of the pregnant women, or 21 percent, were planning to breast feed their infant, while twelve clients were undecided. When many of these same clients were interviewed by the evaluation team, the same number of clients, seven, had tried breast feeding for more than a month as shown in Table 9. Few of the undecided pregnant clients had chosen to breast feed their newborns. At the time of the interview, only four clients were still breast feeding their babies, as shown in Table 10. Clients expressed their feelings about breast feeding in the following ways:

> "I wouldn't -- too embarrassing. Anyway, I'm going to start working."

> "I don't think it's right to get out in public like that and the birth control pills might get in the milk. My husband didn't want me to."

"My mother wanted me to but I was afraid to do it."

"Another one I'd breastfeed. I'm big and self conscious. Seemed kind of dirty at first but not now."

Table 9. Clients Who Had Tried Breast Feeding For More than a Month

N = 24

	No.	Percentage
Yes	7	29%
No	17	71%

Table 10. Current Mode of Infant Feeding

N = 24

	No.	Percentage
Breast	4	17%
Formula	20	83%

As noted in the last quote it was apparent that the HEAs were making headway with some clients in changing their view of breast feeding to a more positive one.

"I like it but I didn't have enough milk after 1½ months."

"I think it's healthier for the baby. I wish I would have breast fed."

"If I ever have another I'm going to do it."

"I liked it. The (HEA) helped me. It's been 8 years since I nursed before."

Several clients mentioned health conditions that they felt prevented them from nursing.

"I couldn't do it because I was so thin." (Client weighed 90 pounds)

"I got too skinny and weak when I was nursing." (Client weighed 108 pounds)

"I was going to do that but I felt bad from blood pressure. Wish I did."

"My baby was allergic to it and spit it up."

"I was going to but I didn't have enough milk. I don't drink milk myself. I don't think I got enough calcium."

Most CCHEP clients participate in the federally funded Women, Infant, and Child Supplemental Feeding Program (WIC) which provides free, ready-to-feed proprietary formula to any mother who requests it for her infant. Twenty-four one quart cans are provided per month, with a can lasting for 1 to 1½ days. Frequently, the free formula runs out before the next month's supply is available and infants are fed whole milk or homemade formulas during the interim. An assertive educational approach on the advantages and techniques of breast feeding is needed to offset the influence of the free-formula program provided by WIC. Some recommendations for increasing effective education on breast feeding are included in the recommendations section of this report.

Effects on Infant Care

Birth Weight. One of the objectives of CCHEP is to bring infants' birth weight up to average. The project appears to be quite effective in this area as shown in Table 11, the birth weight of 83 percent of the infants was six pounds or greater. Only 17 percent of the infants had birth weights under six pounds. Since many of the clients had had premature or underweight babies in previous pregnancies, the project appears to be making some headway in bringing infants' birth weights up to average.

Table 11. Infant Birth Weight
N = 24

	No.	Percentage
Below Average (under 6 lbs.)	4	17%
Average (6-8 lbs.)	12	50%
Above Average (over 8 lbs.)	8	33%

Infant Feeding. Two of the infant care problems in Eastern Kentucky are overfeeding and beginning solid foods too early. These practices may produce allergies to foods, colic, diarrhea, and a tendency to be overweight in later life. Mothers were asked to estimate how much formula and how often they were feeding their infants. As shown in Table 12, it was found that half of the mothers were overfeeding their babies. This tendency was more pronounced for the younger infants. Over 70 percent of the infants under two months were overfed, receiving more than twenty-eight ounces of formula per day. Fewer infants from 2-4 months (24 percent) were overfed, receiving more than thirty-six ounces of formula per day.

A similar trend was found for starting solid food. As shown in Table 13, over 64 percent of the mothers had already or planned to start solid food before the age of 4 months which is recommended by the Kentucky Infant Feeding Guide. In fact 27 percent of the mothers had started feeding solid food between 3 to 6 weeks, typically rice cereal and fruit. The types of foods being

fed to infants under 4 months included cereal; jars of baby food vegetables, fruit, and meat; and table food such as corn, potatoes, gravy, greens, and meat mashed with a fork.

Table 12

Mothers Estimate of Amount of Formula Per Day for Infants Up to 4 Months (N = 14)

Amount of Formula	No.of Infants			Percentage
	Under 2 months*	2-4 months**	Total	
Below Average	2	3	5	36%
Average	0	2	2	14%
Above Average	5	2	7	50%

* Below average = less than 20oz. Average = 20-28 oz., Above average = over 28 oz.

** Below average = less than 28 oz. average = 28-36 oz., Above average = over 36 oz.

Table 13
Mother's Opinion of When to Start Solid Food

Date for Starting Solid Food	No. of Infants	Percentage
Sooner than Average		
3-6 weeks	6	
2 months	6	
3 months	2	
Total	14	64%
Average		
4-6 months	8	36%

When probing for the reasons behind the overfeeding of infants, the comments of two young mothers are revealing. One said, "When she cries, I have to give her a juice bottle to get her quiet." Another said, "I feed my baby everytime he cries." Many of the mothers looked to food as the primary means for pacifying their baby.

Changing some of the infant feeding practices which are common to the area is difficult. For instance, there is a tendency to feed babies sugar at a young age. One mother insisted, "She doesn't like her vegetables but she loves desserts. My father-in-law told me to feed her pudding and she just went to town on that. Now she just has dessert at dinner." She added, "The baby knows when someone has pop. I sometimes give her a drink in a glass." Another mother said, "I just put a little sugar in the baby's water. Just a bit. Barely enought for him to taste it." Unfortunately, some mothers also feed babies directly from the family dinner table with foods which are overcooked and cooked with excessive amounts of lard. As one mother emphasized, "He likes salt and grease. It won't hurt him. I was raised with it." Chronic diarrhea, a common health problem for these infants, is perpetrated by highly seasoned and fatty foods.

Infant care practices. Clients were asked to describe what they had learned about taking care of babies from their HEA. All clients could describe newly learned or improved practices. As shown in Table 14, by far the most popular was correct techniques in bathing babies. This was mentioned by twelve clients.

Although many of the homes visited were dirty and lack running water, almost all the babies were scrupulously clean and well dressed. Of the twenty-four babies visited, 71 percent were exceptionally clean and well dressed. High value is placed on infant cleanliness.

Advice on preparing the baby's milk and food was the next most frequently mentioned practice, cited by ten clients. Preventing diaper rash, mentioned by seven clients, was also fairly prominent. A complete range of practices clients mentioned as having learned from the HEA is shown in Table 14.

Table 14

Most Frequently Mentioned Infant Care Practices Learned from HEAs

	No.
Bathing	12
Preparing Baby's Milk/Food	10
Diaper Rash	7
Cleaning Penis	3
Changing Diapers	3
Giving Vitamins	2
Treating when Sick	2
Cradle Cap (head)	1
Teething	1
Burping the Baby	1
Ear Cleaning	1
Sterilizing Bottles and Nipples	1
Giving Shots	1
How arguing and stress can hurt the baby	1
Fixing liver for baby with low blood	1
Dealing with Milk & Food Allergies	1

Overall, the project appears to be influencing many attitudes and habits related to infant care. Given the breadth of topics mentioned, it appears that the project is individualizing instruction to the needs of different clients.

Tooth decay prevention. One of the most noticeable problems in Eastern Kentucky is tooth decay. Because fluoride is lacking in most area water, Appalachian people often reach adulthood with multiple dental problems, missing teeth, or dentures. Frequent intake of sugary foods, and lack of consistent dental hygiene perpetuate the chronic problem of tooth decay and early loss of teeth. Tooth decay was one of the problems addressed by CCHEP. The HEAs frequently help clients test well water for fluoride and obtain fluoride drops if needed.

As shown in Table 15, 62 percent of the clients were using fluoride in their water or were aware that it was not needed. This left 37 percent of the clients who need but are still not getting adequate fluoride.

Table 15. Use of Fluoride in Water
(N=24)

	No.	Percentage
Yes	6	25%
Not needed	9	37.5%
No, but needed	9	37.5%

The HEAs also emphasize other practices to prevent tooth decay. These include: not using a night bottle, sugared water or other sugared drinks like Kool-Aid; and regularly cleaning teeth and gums with a soft cloth. When clients were asked how they avoided tooth decay for their baby, of the twenty-four clients, six mentioned they cleaned their teeth, three mentioned avoiding sugared water, and two mentioned avoiding night bottles.

Doctor visits. One goal of CCHEP is to encourage pregnant women and their infants to regularly visit the doctors and follow their advice. Transportation is a problem for many women. Because there are few doctors, the women often wait five hours to see the doctor. These factors discourage regular visits. However, CCHEP does promote regularity. As shown in Table 16, 65 percent of the clients had not missed a doctor's appointment during pregnancy, and since their baby's birth. Given the difficulty of getting to the doctor, this precentage seems relatively high.

Of those infants who were old enough to have immunizations (3 months and up), mothers were asked how many shots their babies had had. As shown in Table 17, of the sixteen babies 3 months and over, 69 percent were current on their immunizations. Again this percentage seems reasonably high given the young age of most of the babies and the difficulty of getting to the doctor.

Table 18 displays several sicknesses the babies incurred. Seven of the twenty-four infants have had or currently have a serious illness. About half have had minor sicknesses such as diarrhea.

Table 16
Regularity of Doctor Visits
(N=20)

	No.	Percentage
None missed	13	65%
Missed Some	7	35%

Table 17
Currency of Immunizations
(N = 17)

	No.	Percentage
Up to date	11	69%
Not up to date	6	31%

Table 18
Serious Infant Illnesses
as Reported by Mothers

	No.
Pneumonia	2
Bronchitis	1
Thrush Mouth	1
Junes Disease	1
Cystic Fibrosis	1
Potentially Mentally Retarded	1

Effects on Health Care Providers

Through interviews conducted with health providers during the first two site visits it became apparent that CCHEP has sponsored little activity related to coordinating health care agencies. The primary involvement with health providers has been employing them as contacts for client referral. Some informal contact has been maintained with providers, such as sending reports of their patients' progress and conferring on critical problems but these activities have not been systematic or continuous. Based on evaluative feedback from the last site visit, project staff have significantly increased their communication with providers about their clients.

Originally CCHEP proposed to sponsor a variety of activities for health care providers. It was proposed to offer continuing education workshops for providers on prenatal and infant nutrition. It was proposed to standardize prenatal and infant nutritional recommendations given by providers. It was proposed to assure all clinics provide health education instruction and materials to their patients. It was proposed to facilitate coordination and joint activities among the health care providers. None of these activities got off the ground in the project's first year. These activities are proposed again for the second year. If this aspect of the project is to be effective, it is essential that activity directed toward health care providers be increased. See the recommendations section for some specific suggestions.

On the positive side, the MTAs have been active in providing information to their clients about community resources. For

example, the HEAs provide their clients:

- a monthly calendar on the WIC program and help in understanding the eligibility criteria
- help in understanding welfare requirements
- information about places that provide free or low cost clothing and furniture
- help in testing their water for fluoride
- encouragement to see their doctor and get immunizations for their children

Client's Reaction to the Program

Program strengths. Clients were asked about their overall reaction to CCHEP -- what they really liked and didn't like so much about the visits. Almost all clients expressed a strong satisfaction with the program. They especially liked having a personal visitor, often considered a friend, with whom they could share confidences. Some quotes from the clients illustrate this feeling.

> "She's really friendly. She'll talk to me about anything. I look forward to her coming. I get lonely. It's a lot easier talking to her than my family."
>
> "She's lots of help. I can tell her things that are worrying me."
>
> "You can ask her anything that's on your mind."
>
> "Oh God, she's taught me everything! I consider her a good friend."
>
> "It's something to do. She's taught me a whole lot. My mother works. I don't get to see much of her."

Several clients expressed that they had learned a great deal from the program.

> "I read everything she brings me. There's a lot of things I don't know about."

"I really like it. The way she explains stuff about how important it is to take care of your baby and the little books she gives you to read."

A few clients felt that the HEAs had been very helpful in emergencies, both physical and emotional. One client said:

"She comes whenever I call her - even late at night once. She makes me see doctors."

Another client who had attempted suicide said:

"It's a big help to me. Sometimes I was real down and didn't know what to do."

Three of the twenty-seven clients interviewed were negative toward the program. Although all three saw the value of the program, these women felt they personally did not need the program. One client expressed this sentiment as follows:

"I don't know why they come to see me. I can take care of my baby myself. They should help the one's who can't help themselves."

Level of support. To obtain a reading of clients level of support for CCHEP, two questions were asked: "If you were being asked by a government agency whether or not they should support a program like this, what would you say?" and "If you had to choose between this program and WIC (a program which provides free food for pregnant women and infants), which would you choose?" The first question was meant to assess the clients perceived worth of the program. The second question was meant to test how much clients valued this type of service compared to one providing free food.

As shown in Table 19, a resounding 89 percent of the clients felt that the government should support a program like this. When asked the tougher hypothetical question of choosing between

CCHEP or WIC, we were surprised that 26 percent of the clients chose CCHEP over WIC. As expected, the majority of the clients (63 percent) preferred free food offered by the WIC program. See Table 20.

Table 19
Recommendation for Government Support of CCHEP
(N = 27)

	No.	Percentage
Recommended	24	89%
Not recommended	3	11%

Table 20
Preference for WIC or CCHEP

(N=27)

	No.	Percentage
WIC	17	63%
CCHEP	7	26%
Couldn't Decide	3	11%

Client recommendations for improvements. It was difficult for clients to express dislikes about the visits or ways that the program could be improved. Most clients responded to these questions with phrases such as "Don't have any," "I'd keep it the same," and "I like the way it is." There are several potential reasons for this. First, although good rapport was established with clients, loyalty was with their Health

Education Assistant. Most clients carefully avoided saying anything that would reflect negatively on their HEA. Second, most clients had no basis of comparison for the program. They had not experienced other ways of learning this information.

Several clients did express some ideas for program improvement. Most frequently mentioned was for the program to limit its focus to women in real need. Clients felt women having their first child should receive priority, especially girls under 20. Secondly, clients felt only aides experienced with their own babies should be hired. A third issue was better money management. Several clients were especially interested in learning more about effectively stretching her meager income to buy nutritious food and take care of children. A fourth issue was encouraging exchange of ideas among the clients in the program. Suggestions included exchanging phone numbers, having get-togethers, or featuring clients in the monthly calendar newsletter, perhaps with their pictures. Project staff have tried to get clients together for special events and found problems with transportation. Many of the clients do not have access to personal transportation and project staff are discouraged from taking clients in their own cars because of insurance problems. However, we feel that getting the clients to meet each other is critical to the long term impact of the program. Project staff should take another look at the transportation issues and come up with some alternatives.

CHAPTER IV

SUMMARY AND CONCLUSIONS

When one steps back and looks at the Coordinated Consumer Health Education Project there is a sense of both accomplishment and disappointment. The work of health education assistants emerges as a dynamic part of the project. The majority of these paraprofessionals are committed, energetic, and gaining competence in bringing health care information to Appalachian women. Having received a large amount of information and consistent support from the project staff, they are highly interested in learning about nutrition and health care. The strongest project effects may have occureed for health education assistants themselves. The model of using paraprofessionals to deliver health education has been effective. Aides are well received by clients. For many clients, the aides visit represents a significant proportion of their social contact. Confidences have been shared and friendships have evolved that may go on long after the program is ended. All health care providers contacted during our visits accepted the paraprofessionals role in consumer education. Health practitioners who have met the aides view them positively as good communicators and enthusiastic workers.

The effects of this project on the women and infants being served are more difficult to detect. This project works in concert with several other efforts such as WIC, health clinic programs, and relatives' advice. The WIC program, which provides

free nutritious food for prenatal women and infants, is bound to be having a strong effect on nutritional intake and health. Physicians and other health care providers see the women regularly and have strong influence over their health care practices. Mothers and relatives are influential. Some problems being addressed by the project, such as low infant birth weight, were not serious before the project began. Given these conditions, it is still apparent that some significant changes are occurring in the health care attitudes and practices of clients being served. The strongest effects, apparent in a majority of the clients were:

- Improved care for their infants, especially bathing, food preparation, and caring for minor problems, such as diaper rash by 100 percent of the clients
- 87 percent of the prenatal clients improved dietary intake
- 69 percent were up-to-date on immunizations for infants
- 65 percent had regular doctor visits
- 60 percent used fluoride in their water when needed

To a lesser degree, the following effects were noticed for between 25 and 50 percent of the clients:

- 50 percent avoided overfeeding infants
- 44 percent planned to use birth control
- 36 percent waited until infants were 4-6 months to start solid food
- 30 percent kept prenatal weight gain in the average group
- 29 percent tried breast feeding

The community of health care providers are somewhat receptive to the project. However, since project objectives directed toward this group have been only minimally implemented, no effects on this group were apparent. Although many of the providers offer prenatal and infant nutritional recommendations, the project has not influenced the nature of the advice. Similarly, no effects on health care instruction or materials distributed to their patients was apparent.

CHAPTER V

RECOMMENDATIONS

1. Strengthen the Steering Committee's Role. The Steering Committee is a potent asset for the project. They are knowledgeable and well connected in the four counties. An expanded role for the steering committee could add more credibility and visibility to the project. During the last site visit, we held a one day planning retreat with steering committee members and project staff. One of the main topics of discussion was the role of the steering committee. It was acknowledged that the potential of the steering committee has been hampered by longstanding professional animosity and competitions both among the four counties and among some of the steering committee members. This has led to frequent absences of members at steering committee meetings, sending substitutes to fill in for them, and non-productive meetings. The steering committee member came up with some suggestions to help ameliorate this situation.

- Encourage steering committee member to attend meetings through providing social functions and food at the meetings and changing the locations to different counties periodically.
- Involve the steering committee in preparing short articles for existing local newsletters and newspapers to highlight coordination among the health agencies.
- Have steering committee members appear on radio and TV talk shows (e.g. Talk Back, Communique) perhaps with project staff or HEAs, to discuss health education topics.
- Have steering committe members make 3-5 minute public service announcements on nutrition, prenatal, or infant care topics.

- Organize a systematic program for steering committee members to initiate face-to-face contact with other health professionals to explain CCHEP and describe specific ways they can become involved.

2. Sharpen the focus of HEA activities. Since the project began, the topics covered by the HEAs have continued to expand beyond nutrition. Many of the topics relate to the broader issues of maternal and child care. We view a broader content focus as appropriate for CCHEP since it allows HEAs to individualize the program to the specific needs of each client. However, some problems related to focus need to be resolved. First, the program lacks a clear identity with doctors. Second, given the broad array of topics that HEAs could cover during home visits, it is important to establish some priorities that are touched on with all clients. Topics of medium and lower priority could then be covered based on the individual needs of each client. A list of specific top priorities could also be used in project publicity to better distinguish CCEHP from other programs, such as WIC. At the planning retreat we discussed priorities for topics HEAs cover on home visits. The group evenly divided twenty-two topics into three categories: essential, important, and optional. The next day the list was reviewed and verified by a group of the HEAs. This is how the priorities fell out:

Essential Topics

(1) Eating a balanced diet

(2) Visiting the doctor regularly

(3) Following the doctor's advice

(4) Using birth control

(5) Gaining the appropriate amount of weight during pregnancy

(6) Obtaining regular immunizations for the baby

(7) Assuring the baby is gaining the appropriate amount of weight

Important Topics

(8) Reducing smoking during pregnancy

(9) Reducing caffeine during pregnancy

(10) Obtaining the appropriate number of calories each day

(11) Cooking to maintain nutrients in food

(12) Keeping the baby clean

(13) Breast feeding

(14) Scheduling appropriate amount and sequence of foods for the baby in the first twelve months

(15) Avoiding tooth decay in children through using flouride and cleaning the teeth

Optional Topics

(16) Reducing intake of lard and other fats

(17) Keeping the home clean

(18) Emphasizing personal cleanliness

(19) Obtaining appropriate physical exercise during pregnancy

(20) Avoiding feeding infants inappropriate liquids or foods

(21) Checking babies for health problems

(22) Discouraging common poor health practices (e.g. drinking too much cola) and encouraging common good practices (e.g. soup beans and corn)

3. Simplifying educational materials used by HEA's.

Several challenging issues surround the use of educational materials. Should project staff use commercial materials, develop their own, or both? How should staff use educational materials with clients? Many attractive commercially prepared materials are used by project staff. It is cost effective to use these materials and we recommend their continued use. However, staff should continue to search for simple materials that emphasize illustrations and pictures, are written without technical language, and are limited in dense-typed copy. This type of material will be better received by the majority of the clients and will be easier to review with clients in an instructional mode. As noted earlier, project staff have developed some of their own educational materials. Although these materials were very competently prepared, we found them dissappointing because they did not meet local needs. If project staff are to continue developing some of their own materials, we strongly recommend localizing these materials to the area. Educational materials should focus on ways to enhance customary diet practices such as:

-food combinations for complimentary proteins: soup beans with corn bread

-soup beans with inexpensive meats, necks, ribs

-inexpensive dietary sources for Vitamin A and C

-recipes and ideas for using WIC foods, puddings, souffles, milk and cheese dishes, Product 19 cookies

-shopping tips, buying the best nutrition for the dollar

Supplemental, short, very practical materials could also be developed. For example, better materials on the hazards of caffeine and cigarette smoking during pregnancy are needed. These should include:

-list of caffeine-containing foods and beverages

-techniques and ideas for how to quit smoking

4. Train HEAs in educational practices: interviewing, demonstrations, using instructional objectives, and preparing instructional modules. The HEAs have been receiving a reasonably good program of substantive information about prenatal and infant care. The substantive training is essential and should continue to receive priority in the Friday training sessions. Special emphasis should be given to the seven topics mentioned as top priority under the last recommendation. However, it is also important to give the HEAs further training in delivering this information. Since the HEAs are attempting to focus their work with each client on the needs of that individual, the most important educational skill they need is that of interviewing. Eleven points for conducting effective interviews, adapted from Michael Q. Pattons' book on Qualitative Evaluation Methods (1980), are listed in Table 21. Some specific ideas for more effective instruction follow:

- Set a specific learning objective for the client prior to each home visit utilizing the list of priority topics
- Limit the amount of time spent talking to the client. Think about other ways to teach

Table 21

Checklist for Conducting
Effective Open-Ended Interviews

1. Ask truly open-ended qustions. Avoid asking questions like, "How satisfied are you with the program...?" which seems open-ended but probably will be answered "pretty satisfied" or "not very satisfied." Ask questions that begin with "who, what, where, how, or when."

2. Avoid questions which can be answered with "yes" or "no." These questions create an aura of interrogation and make the client more passive and less communicative.

3. Ask questions that presuppose an answer. Ask "What have you learned?" rather than "Have you learned anything?"

4. Ask only one question at a time. Avoid asking questions like "What are the pros and cons?"

5. Ask clear questions. Use the client's language. Accept any unclear questions as your fault to put the client at ease.

6. Don't ask "Why" questions. Why questions can produce too many different types of responses.

7. Ask neutral questions. Avoid questions that give the client the answer you're looking for.

8. Role play other people familiar to the client when asking questions. Bring questions to life with phrases, such as "Suppose I were a new client in this program..."

9. Announce the topics you will cover to help the client shift their thinking before beginning a new area of questioning. This will help you get the client's attention and summarize information to provide the background for your next question.

10. Help the client elaborate on and clarify what they've said. Give the client recognition and support when they are answering questions openly and thoughtfully. Encourage the client to give examples and more details.

11. Control the interview through verbal and non-verbal cues. Use the presence and absence of taking notes, eye contact, head nodding, and interruptions to let the client know when they are responsive and non-responsive to your questions.

- Use more demonstrations especially for physical activities such as exercises, bathing the baby, washing bottles and nipples; using actual foods for a review of nutrition and shopping tips; review groceries purchased by the client on food stamp day; read food labels together; bring labels of good food buys to show brand names and acceptable product prices

- Watch the client practice a demonstrated activity and give feedback

- Develop modules on specific topics of instruction which include simple educational materials outlining the key points the client needs to remember, for example, the effect of smoking and cigarettes during pregnancy

- Move beyond disseminating information by consistently reinforcing desired changes in client behavior

- Structure a client home visit for maximum benefit, a suggested time-frame follows:

  -Initial ten minutes in informal conversation with client, hearing client's pertinent health or social problems, and setting the style for maximum learning, i.e., by requesting privacy with the client, moving to another room in the house, removing distractions of noisy children or a blaring TV

  -next twenty minutes of home visit can be spent on review of information presented in past visits

  -last thirty minutes for presentations of new information by discussion and demonstrations using a module of learning activities for a specified objective, allowing time to review and listen to client repeat the objective

Many excellent instructional modules have been prepared to help teachers learn how to teach. The following instructional materials available from the American Association for Vocational Instructional Materials, 120 Engineering Center, Athens, Georgia 30602, (404) 542-2586 are recommended for use in training the HEAs.

B-1 Determine Needs and Interests of Students

B-2 Develop Student Performance Objectives

B-3 Develop a Unit of Instruction

*B-4 Develop a Lesson Plan

C-13 Imploy Reinforcement Techniques

*C-16 Demonstrate a Manipulative Skill

*C-22 Present Information with Models, Real Objects, and Flannel Boards

C-10 Introduce a Lesson

C-11 Summarize a Lesson

*The starred entries are recommended as being the most useful.

5. Clarify outreach priorities. The project has been somewhat haphazard in recruiting clients into the program. The outreach priorities need to be reexamined. As CCHEP grows it is important to make clear decisions about which clients should be served through the program and which should not. From our interviews with clients we found that CCHEP does not focus exclusively on "high need" clients. We found that about 10 percent of the clients did not feel they needed the program and did not understand why they were enrolled. We found that 63 percent of the mothers interviewed had had children previously. The project should not focus exclusively on mothers birthing their first child since some of the mothers had problem pregnancies with later births. However, the project appears to have too high a proportion of clients going through their second, third, or in one case, fifth pregnancy. Clients also felt the priority should be given to women having their first child. So to better serve the high need population, we recommend the following outreach priorities:

- Prenatals should be the primary clients. Clients with children 6 months or older should not be admitted into the program.
- Women having their first child should make up 50 to 75 percent of the client population.
- In the future, consideration should be given to extending the program to children up to 5 years of age. Although infants' nutritional needs are reasonably well met through WIC, few programs in the area serve children between 1 and 5.

6. Explore client groups as an alternative delivery system.

Several clients mentioned that they would like to have more interaction with other clients in the program. Given the isolated locations, distances, and lack of transportation, it would probably be difficult to convene large groups of clients on a regular basis. However, it would be possible to convene small groups of clients. These sessions would allow clients to exchange information and practice among themselves. Different clients could be asked to do demonstrations or briefly share experiences. This would tend to strengthen the instruction provided by the HEAs, build self confidence, and broaden each client's network of people they can turn to for advice and help. Currently, the project has the problem of clients becoming overly dependent on their HEA. This problem is accentuated when clients must leave the program when their child is a year old. Getting clients involved with each other would provide greater continuity. This kind of group interaction would be especially valuable to extend the spirit of the project when federal funds are no longer available for its support.

7. Review training and delivery methods for education on birth control and breast feeding. Current methods for informing the clients about birth control, and breast feeding are not effective. Clients hold many fears and misconceptions about birth control. Less than half of the clients ever used or planned to use birth control. Is there something else the project could do to promote appropriate use of birth control? It is recommended that project staff work with Dr. Holmes to develop some alternative strategies. It may be advantageous to hire one male paraprofessional who could be referred by the various HEAs to speak to the husbands about birth control. There may be additional issues where it would be useful to have a male contact clients' husbands, such as preparing formulas, and a man's role in child care. We also found much of the embarrassment about breast feeding stems from a feeling that their husbands view it as sexually inviting. Husbands and fathers sometimes have a negative influence on maternal and infant diet that could probably be changed more effectively through contact with a fellow male. Other strategies to enhance the effectiveness of education on breast feeding include:

- A module learning program developed on the advantages of breast feeding for infants health, maternal infant bonding, and maternal weight normalization
- A pictorial educational series on techniques of breast feeding
- One-to-one instruction on breast feeding techniques within the hospital on the day of delivery and during the post-natal hospital stay
- Increasing client awareness of the supplemental foods available to the lactating mothers through the WIC program

8. Maintain consistent communication with health care providers.

It is assumed that the funding for CCHEP will eventually stop. If the project is to have continuing effects on the area, consistent communication with health care providers for the last phase of the project is essential. Project staff need to communicate the goals of the program, and what is being learned about prenatal women and infants to health care providers. Communication will help health care providers feel involved in the project as well as increase their ability to continue this type of service when the project closes. At the planning retreat, several specific ideas for communicating with health care providers were discussed. These include:

(1) Send feedback to providers once a month for any clients with problems.

(2) Send a three month summary to providers on all clients. This summary should be delivered in persons by the HEA to emphasize the importance of the information and provide an opportunity for direct interaction

(3) Have the HEAs at the clinics one day per month to encourage referrals

(4) Develop a simple questionnaire that clients can fill out themselves at intake rather than asking providers to fill out this information or obtaining it from records.

Several broader strategies for communicating the intent and accomplishments of the project to health care providers were also discussed. These include:

(1) Create a CCHEP newsletter for health professionals with guest articles by physicians, pictures of project staff, description of the role of the HEAs, announcement of services, and other features.

(2) Write joint articles with other health programs such as WIC, extension agents, and social security insurance.

9. Build on the perspectives of health care providers. Originally the project hoped to standardize the advice on prenatal and infant care, provided by health care providers, such as when to initiate solid food. From experience, project staff have learned that this is not feasible because there are too many different and deeply felt perspectives among the health care providers. Instead, the project should focus on building on the current perspectives of health care providers and help communicate their concerns to clients. One of the best ways to increase physicians and other health care providers interest in the project is to involve them in training the HEAs. They will tend to be more supportive of the HEAs if they've had a role in their training. This will also provide an opportunity for the HEAs to give providers deeper perspective into the real life problems and needs of the women being served.

10. Integrate this project into other ongoing health programs. CCHEP should be integrated into the broader service delivery network. The original project objectives are as important now as they were when first planned. The project should start with programs where they have the most chance for successful cooperation. Several programs are in operation which have similarities to CCHEP. The WIC program is an exceptionally strong program emphasizing better nutrition.

Several clinics in the four counties have nutritionists. These practitioners offer advice on prenatal and infant practices, and physicians play a key role in providing this type of advice. Until now the project has remained relatively separate from these other programs. However, the project could increase both its perceived value to the area and its potential impact of more collaborative efforts with these other projects could be initiated. For example, the HEAs could offer to follow-up on problem clients identified by nurse practitioners or WIC staff. Project staff could develop some health education materials especially designed for WIC clients to be disseminated by that staff. Another convenience for physicians who are referring clients to CCHEP and WIC would be to use the WIC intake form with a box added for also referring the client to CCHEP.

11. Provide staff development in management planning. In our last report, we recommend that staff be viewed as long term resources for Appalachia and that some project funds be devoted to staff training. We continue to support this recommendation, especially staff training in:

- Working with a steering committee, including skills in group process
- Superivison and personnel management
- Preparing work plans and timeliness
- Community outreach and public reactions

Some specific resources for these training activities were described in the last report.

12. Continue to evaluate the project internally. We have been impressed with project staffs' openness to critically analyzing the projects activities and thinking about ways to improve them. We encourage project staff to continue to be self-critical and analytical of their activities without an outside evaluation. It is recommended that the project strengthen its internal evaluation mechanisms so that evaluation of project activities can continue in future years. The following types of evaluation are recommended.

(1) HEAs should be observed working with clients and given specific feedback at least every four months. Observations should be more frequent for new HEAs. The primary purpose of the observation should be to provide HEAs specific feedback about improving their client interaction. We recommend a checklist be developed in cooperation with the HEAs so that collaborative decisions can be reached on the skills to be reviewed. Specific review categories could include:

Substantive knowledge. (Is the information presented accurate? What additonal information could be emphasized?)

Interviewing skills. (Discuss how well the HEA is implementing the eleven interview guidelines described in this report.)

Client rapport. (How does the HEA put the client at ease? What else could be done? Are cues from the client being responded to?

Leadership, organization. (How does the HEA maintain control of the interaction? Is the interaction well planned? Is the purpose of the session and topics covered clear?)

We would recommend using the project nutritionist and education specialist to conduct these reviews. We also recommend peer reviews where "master" HEAs, who have been working with the program for a while and are especially skilled, provide feedback to newer HEAs.

(2) Careful and up-to-date records should be maintained on:

- The number of clients in the program
- The client background and demographic characteristics (age, number of children, special problems)
- Dates client was visited
- Names of clients assigned to each HEA

We found this information very difficult to obtain from project staff because this essential information was filed away with much less essential information making it cumbersome to retrieve.

A simple way to keep this information handy would be to use a large box of index cards. A separate card would be developed for each new client with only the most essential information from the intake and other forms. The cards would be organized into sections for each HEA. When the client is terminated, their card should be transferred to a similarly set up

inactive file. This type of file would allow staff to quickly monitor their clients to answer questions, such as:

- How many clients are being served?
- How well are we meeting our outreach criteria? Do we need to serve more clients in their first pregnancy?
- How are we doing in generating referrals? What referral sources are slowing down?
- Are some clients not being visited regularly? Are some clients being visited too often?

(3) It would be quite useful for the steering committee to review the project annually. This should include a review of project records, accompanying the HEAs to the field to visit several clients, and interviewing project staff on accomplishments and problems. The steering committee should report commendations and recommendations for improvement to the project staff and prepare a short written report for the sponsor.

13. Reduce paperwork. A typical problem during the start up year of any project is that staff are not that sure what information is actually needed to effectively run the project. This type often leads to a tendency to overcollect information just in case its needed. After a year of operating CCHEP it is time to analyze all the project paperwork and make some tough decisions about what could be eliminated, collected more efficiently, or revised. The primary questions to ask are "How is this information being used?" and "Is it essential for project documentation for audit purposes?'

A large volume of paperwork and HEA time is devoted to the assessment of the client's current dietary intake. The collection of this data may occur before rapport is established between the HEA and the client. The client may be suspicious or hesitant to discuss food consumption patterns fearing the HEA may cut back her welfare check or food stamp allotment.

The Food Frequency Record, as it is currently used, is not a valid indicator of typical meal patterns. There was poor correlation between the food frequency chart with the Three-Day Dietary Record. Clients tend to over-estimate their intakes of milk products, Vitamin A food sources and other fruits and vegetables when compared to their dietary records. The Food Frequency Record is not an effective instrument for collecting the desired data. A "Food Availability List" could be developed of foods commonly purchased by clients and used for a quick food storage inventory, recording foods purchased and stored in the household. Once in the kitchen area of the home, actual foods could be used to demonstrate other nutrition topics such as label reading for highest nutritive quality, price comparisons for foods in various packaging, and demonstrating food preparation and sanitation techniques.

The second dietary intake assessment instrument is the Three-Day Dietary Record. The HEA instructs the client to record all foods eaten, and their quantity, for three successive days. The client must be literate and highly motivated to successfully

perform this task. Although many clients are literate, they appear to be embarrassed to write down words they fear misspelling. Several clients records are incomplete and do not include both diet assessment forms. Client contact sheets record difficulty in motivating the client to complete the form. When completed, the HEA collects the form and calculates the adequacy of the client's current dietary intake by a scoring method on the form. More reliable data could be achieved in less time by replacing the Three-Day Dietary Record with a "24-Hour Recall," utilizing the same type of form. The recall could be administered on three successive home visits to ascertain the same amount of dietary data. This would shorten delays, eliminate unnecessary client embarrassment over their writing ability, and decrease paperwork.

Another way to reduce the paperwork burden would be to provide a training session for the HEAs in medical shorthand and accepted abbreviations to standardize recording methods. Additionally, current client contact sheets used to record home visits are lengthy, overly descriptive, repetitive, and difficult to read for objectives and interventions. Problem-oriented records should be used in place of current client contact sheets to identify client problems, HEA interventions, and pertinent client responses.

This section has presented thirteen recommendations for improving the Coordinated Consumer Health Education Project. These recommendations are not presented in priority order. However, in the coming years, we feel the project should focus first on finetuning the activities of the Health Education Assistants. This area of the project is already strong and small changes could significantly increase the project's impact. Then we feel it is imperative for the project to try out some new strategies for coordinating health professionals.

APPENDIX

Client Interivew Schedule

Client Checklist

CLIENT INTERVIEW SCHEDULE

_____ _____

Client's Name HEA's Name

Introduction: Hello, I'm _____. I'd like to ask you a few questions about your visits with _____. This information will be used to judge how well this program is working and to provide some suggestions for improvement.

A. First, let's talk a little about yourself.

1. How old are you? _____

   a. How many children do you have? _____

   b. When will you have (did you have) this baby? _____

2. Describe for me some of the things _____ has taught you about taking care of yourself.

3. How many times has _____ visited you? _____

   a. How long does she usually stay? _____

   b. What do you usually do during a visit?

4. Tell me about what foods you eat have changed since _____ started visiting you?

5. How have you changed other habits like smoking cigarettes, drinking alcohol, or drinking coffee?

6. What is your opinion of using cigarettes, coffee and alcohol while pregnant?

7. How do (did) you feel about visiting the doctor during your pregnancy?

   a. When you missed visits, what were the reasons?

8. How do you feel about birth control?

   a. How does your husband feel?

   b. Do you plan to use birth control?

9. What kinds of physical exercise have you been doing (did you do) during your pregnancy?

   a. What is your opinion of exercise during pregnancy?

10. How did the amount of weight you gained during this pregnancy compare to your previous ones?

11. What is the most valuable thing you've learned about taking care of yourself?

B. Now let's talk about taking care of your baby.

1. Describe for me some of the things _____ has taught you about taking care of your baby.

2. What is your opinion of breast feeding? (If baby is not yet born, skip to question B7.)

   a. Have you tried it? _____

   b. What types of liquids do you feed your baby?

   c. How many times do you feed your baby during a 24-hour period?

3. At what age do you plan to (did you) start solid food? _____

   a. What types of solid food do you feed your baby?

4. What do you do to avoid tooth decay for your baby?

   a. Do you use floride drops in your water? _____

5. What type of immunizations has your baby had?

6. How much did your baby weigh at birth? _____

   a. How does that compare to the birth weight of your other children? _____

7. What is the most valuable thing you've learned from _____ about taking care of your baby?

C. Reaction to the Program

1. How do you feel about _____ coming to visit you?
   a. What are some of the things you have really liked about the visits?

   b. What about dislikes? What are some things you don't like so much about the visits?

2. Have there been any other ways the visits have affected you that we haven't talked about?

3. If you were the one making visits to other women in this area, what would you do differently?

   a. What topics would you emphasize?

4. Suppose you were being asked by a government agency whether or not they should support a program like this. What would you say?

   a. If you had to choose between this program and WIC, which would you choose?

5. Who shouldn't be in a program like this?

6. Okay, you've been very helpful. Any other thoughts or feelings you might share with me to help me understand your reactions to the visits and how they affected you?

a. Anything at all you'd like to add?

OBSERVATION						Comments
Cleanliness of the home	1	2	3	4	5	
Cleanliness of the baby	1	2	3	4	5	
Cleanliness of other childrens	1	2	3	4	5	
Food storage	1	2	3	4	5	
Foods on hand	1	2	3	4	5	
Mother's appearance	1	2	3	4	5	

CLIENT CHECKLIST

Client's Name _____ HEA's Name _____

Instructions: Based on your observations rate the conditions in the client and home as compared to the conditions found on your initial visit to the client.

	Worse	Same	Improved	Don't Know
o Intake of a balanced diet	( )	( )	( )	( )
o Appropriate caloric intake	( )	( )	( )	( )
o Visiting the doctor	( )	( )	( )	( )
o Following the doctor's advice	( )	( )	( )	( )
o Cleanliness of the home	( )	( )	( )	( )
o Personal cleanliness	( )	( )	( )	( )
o Smoking during pregnancy	( )	( )	( )	( )
o Drinking coffee during pregnancy	( )	( )	( )	( )
o Physical exercise during pregnancy	( )	( )	( )	( )
o Cooking to maintain nutrients	( )	( )	( )	( )
o Cleanliness of baby's sleeping area	( )	( )	( )	( )
o Cleanliness of baby	( )	( )	( )	( )
o Frequency of cleaning baby's teeth and gums	( )	( )	( )	( )
o Frequency of using a bottle at night	( )	( )	( )	( )
o Appropriate frequency of feedings	( )	( )	( )	( )
o Feeding inappropriate liquids or foods (e.g., kool aid)	( )	( )	( )	( )

In this section describe any changes you have observed in the client since you started working with her. Note both negative and positive changes.

In this section describe other critical events that have occurred with this client (e.g., helping them get on WIC).